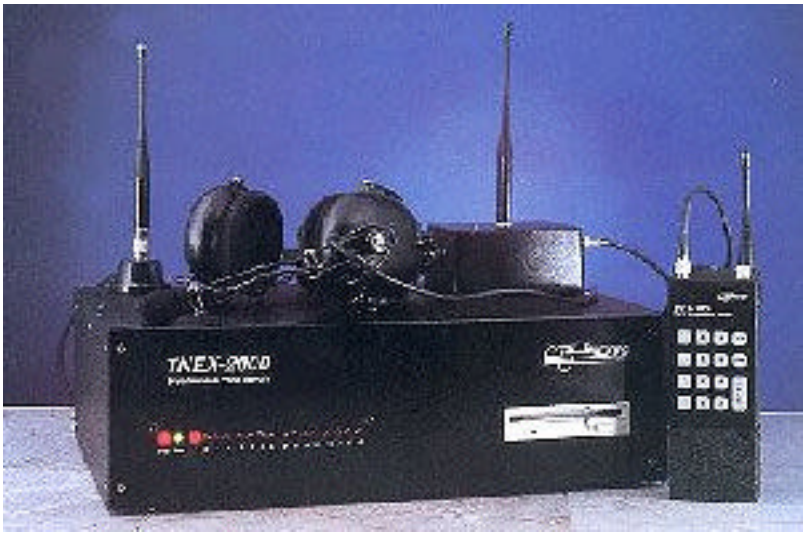
NASA Success Story

Digital Wireless Voice Network



Telenexus, Inc. of Richardson, Texas has established itself in wired/wireless telephony and Radio Frequency Identification (RFID) system development, based partly on technologies developed under a Small Business Innovation Research (SBIR) project with NASA's Kennedy Space Center. The company developed and commercialized the Digital Wireless Voice Network based on a wireless headset design that NASA wanted for use in Kennedy Space Center's Operational Intercommunication System (OIS). Following the SBIR work for NASA, Telenexus went on to market the TNEX-2000, a flexible, wireless communications system that provides local voice communications for virtually any work group and requires no FCC license to operate. Later, Telenexus became a technology partner with Texas Instruments, Sirit Corporation, and Mobil Oil. Telenexus developed and manufactured transceivers for toll collection systems, the Mobil Speedpass, and the Texas Instruments Registration and Identification System (TIRIS), the Tag-It low cost tags. Currently, the company is developing parking lot and airport hands-free collection systems. Also, it is marketing a telephone/voice mail system under the Voice Logic name, a sister company it formed. Trademarks include DVO, Amigo, Voice Express, Clarity, and Encore. Voice Logic is focusing on the rapidly growing Small Office, Home Office (SOHO) telephony market. In addition, Telenexus has a joint venture partner to develop a wireless Private Branch Exchange (PBX) system. The company believes a 2.4 GHz PBX system based on its own application specific integrated circuit (ASIC), will be a successful commercial product.

NASA Involvement NASA's need for this innovation was to enhance the KSC Digital Operational Intercommunication System (OIS-D) by providing it with a wireless headset link. The OIS-D supports all Shuttle and Payloads launch and test activities at Kennedy Space Center (KSC), including their interfaces to communications systems at other NASA centers. Its end users are the

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NASA Success Story

Digital Wireless Voice Network (Continued)

Launch Director and both NASA and contractor test conductors, engineers and technicians. The prototype system delivered under the SBIR contract consisted of a configuration of 10 subsystems each, which included a mini-base station with two corresponding remote headset units in a mini-base station configuration. This configuration was to provide a direct independent link between each of 20 individual operators and an OIS station.

Social/Economic Benefit The Telenexus TNEX-20000 wireless communications system uses digital modulation on spread spectrum. It consists of a base station, 4 radio/antenna modules, and as many as 16 remote units with headsets. The base station serves as a network controller, audio-mixing network, and interface to such outside services as computers, telephone networks, and other base stations. The system is also useful in industrial maintenance, emergency operations, construction, and airport operations. Also, digital capabilities can utilized by adding barcode readers for use in taking inventories.

Industry Partner
Telenexus, Incorporated

NASA Partner
Kennedy Space Center

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